Iowa Department of Natural Resources
Environmental Protection Commission

ITEM **9** **DECISION**

TOPIC **Referrals to the Attorney General**

The Director requests the referral of the following to the Attorney General for appropriate legal action. Litigation reports have been provided to the commissioners and are confidential pursuant to Iowa Code section 22.7(4). The parties have been informed of this action and may appear to discuss this matter. If the Commission needs to discuss strategy with counsel on any matter where the disclosure of matters discussed would be likely to prejudice or disadvantage its position in litigation, the Commission may go into closed session pursuant to Iowa Code section 21.5(1)(c).

- Monroe Branstad (Hancock County) – Wastewater

Edmund J. Tormey, Chief
Legal Services Bureau

November 17, 2008

LITIGATION REPORT

Prepared by: Kelli Book
Date: November 19, 2008

I. Summary

The DNR seeks referral of Monroe Branstad to the Attorney General's Office for appropriate enforcement action, due to the discharge of sweet corn silage runoff from Mr. Branstad's cattle operation. The discharge caused a fish kill of over 30,000 fish along the Winnebago River. This referral includes the following violations: (1) prohibited discharge; (2) violations of general water quality criteria; and (3) a potential unpermitted on-site wastewater treatment system.

II. Alleged Violator

Monroe Branstad
3018 Highway 69
Forest City, Iowa 50436

III. Description of Facility

Monroe Branstad owns and operates a cattle operation at 3018 Highway 69, Forest City, Iowa (SW ¼ of Section 24, Madison Township in Hancock County). The operation has 900 head of cattle in open lots and 200 head of cattle in confinement buildings. Manure from the confinement buildings is stored in below building pits and the manure from the open lots is scraped from the lots and land applied to fields.

IV. Alleged Violations

a. Facts

August 28, 2008:

1. On August 28, 2008, Scott Grummer, DNR Fisheries Biologist 2, was notified of dead fish in the Winnebago River at 4582 335th Street in Cerro Gordo County, Iowa. At approximately 8:30 pm, Mr. Grummer called the emergency spill hotline and notified Dale Adams, DNR Field Office 2 environmental specialist, of the fish kill. Mr. Grummer and Mr. Adams arranged for DNR Field Office 2 personnel to meet Mr. Grummer the following morning near Fertile, Iowa.

August 29, 2008:

2. On August 29, 2008, Carl Berg, DNR Field Office 2 environmental specialist, and Clay Swanson, DNR Field Office 2 environmental specialist senior, met

Mr. Grummer and began the investigation. A sample site map is attached as Figure 1. A summary and the results of the field tests and laboratory samples collected on August 29, 2008 are attached as Table I and Table II. The results of field tests and laboratory samples collected on August 30, September 2, 2008, and September 11, 2008 is attached as Table III. Photographs from the investigation are also attached to this litigation report.

A summary of the sites visited is as follows.

*Site 1 - 4582 335th Street (Winnebago River). The group observed dead fish. Field tests were taken at approximately 8:15 am.

*Site 2 – Upstream of the Winnebago River Dam in Fertile, Iowa at the City Park. Dead and alive fish were observed above the dam. Field tests were taken at approximately 8:35 am. Laboratory samples were also collected.

*Site 3 – Dogwood Avenue Winnebago River bridge crossing (Winnebago River). The group observed dead fish and did not observe any live fish at this location. The field tests were taken at approximately 8:50 am.

*Site 4 – Kuhn Wildlife Area, Balsam Avenue (Highway S14) (Winnebago River). The group observed dead fish. The field tests were taken at approximately 9:15 am. Laboratory samples were collected at the Balsam Avenue bridge.

*Site 5 – Apple Avenue bridge crossing (Winnebago River). The group observed dead fish and the field tests were taken at approximately 9:25 am.

*Site 6 – Torkelson Pits Wildlife Area (Winnebago River). The group observed dead fish and the field tests were taken at approximately 9:30 am.

*Site 7 – Gabrielson State Wildlife Management Area at Valley Road bridge (Highway B14) (Winnebago River). The group observed live and dead fish and field tests were taken above the dam at approximately 9:40 am.

*Site 8 – Winnebago Canoe Access southeast of Forest City at River Road. The group did not observe live or dead fish and field tests were taken at approximately 10:02 am. Laboratory samples were collected at the River Road Bridge.

*Site 9 – Taylor Avenue bridge crossing (Winnebago River). The group observed dead fish and field tests were taken at approximately 10:20 am. Laboratory samples were also collected at this site.

*Site 10 – Downstream of Forest City Wastewater Treatment Plant. At this point in the investigation, Mr. Grummer left to begin the fish kill survey and Mr. Swanson and Mr. Berg proceeded to the treatment plant. Buzz Charleson, the treatment plant operator, stated that the plant was operating normally. He stated he saw live carp near the treatment plant discharge the day before and that parts of the town had received over three inches of rain on the evening of August 27, 2008. Field tests were taken approximately 500 feet downstream of the treatment plant discharge at 10:40 am. Laboratory samples were collected at this site.

*Site 11 – Silver Creek bridge crossing at Reed Avenue. Mr. Swanson and Mr. Berg noted that the water was cloudy and that there was a corn silage smell at the crossing. Mr. Berg observed an abundant amount of emergent aquatic vegetation in the stream and there were no fish, dead or alive, observed. Field tests were taken at approximately 11:00 am.

*Site 12 – 320th Avenue west of State Highway 69 (Tributary of Silver Creek). Mr. Swanson and Mr. Berg observed that the water appeared cloudy and a corn silage

odor was noted. No fish, dead or alive, were observed at this location. Field tests were taken at approximately 11:10 am. Laboratory samples were collected at this site.

*Site 13 – North Highway 69 crossing (Silver Creek). Mr. Swanson and Mr. Berg noted that the water was cloudy and turbid, with a silage odor. No fish, dead or alive, were observed at this location. Field tests were taken at approximately 11:30 am. Laboratory samples were also collected at this location.

*Site 14 – 310th Avenue (Tributary of Silver Creek). Mr. Swanson and Mr. Berg noted that the water south of the culvert was clear. No fish, dead or alive, were observed at this location. Field tests were taken at approximately 11:45 am. Laboratory samples were collected at this location. Based on the field test results, Mr. Swanson and Mr. Berg went back to the south Highway 69 crossing (See Site 15 below) and started walking the drainage ditch looking for the source of the pollution. Mr. Swanson proceeded back to the car and spoke to a Forest City police officer who had stopped at the car. After Mr. Swanson explained the situation, the police officer stated that Mr. Branstad's cattle operation was to the south about a mile and that he stored silage. As Mr. Berg continued to walk the drainage ditch he continued to note a strong silage odor. Mr. Berg did not observe any fish or other discharging tile lines in this portion of the stream.

*Site 15 – South Highway 69 crossing (Tributary of Silver Creek). This location was below the tile discharge line (to be discussed in Site 16 below). Field tests were taken at approximately 12:58 pm. Laboratory samples were collected at this location.

*Site 16 – Tile Outfall about 150 feet upstream of 310th Avenue (Tributary of Silver Creek). The tile outfall was discharging cloudy water with a strong silage odor. Field tests were taken at approximately 12:15 pm. Mr. Berg collected laboratory samples at this location and Mr. Swanson collected laboratory samples upstream on the south side of 310th Avenue.

3. Mr. Swanson and Mr. Berg proceeded to Mr. Branstad's cattle operation. They first spoke to Andrew Branstad, Monroe Branstad's son. Mr. Andrew Branstad stated the operation had just constructed a silage runoff containment basin within the last month. He stated that the Branstads had spoken to a DNR construction permit engineer regarding the need for permits. The DNR informed them that no permits were needed, but that the facility must control any runoff and leachate from entering the groundwater, surface water, and tile lines. Mr. Andrew Branstad stated that the basin had been pumped twice since it had been constructed. It was pumped into the cattle confinement below building pit.

4. Mr. Berg was checking the road ditch for tile intakes as Monroe Branstad arrived on site. Mr. Branstad showed Mr. Berg the tile intake west of the cattle operation in the Highway 69 road ditch. He stated that the basin contractor was Bruce Solgaard. Mr. Branstad left a message for Mr. Solgaard. Mr. Swanson and Mr. Berg went to the silage bunker area. They continued to search the site for a tile intake or other pathway for the silage. Mr. Berg and Mr. Swanson observed a tile intake west of the basin in the Highway 69 road ditch. It appeared to be an offset tile with no evidence of silage runoff flowing through the intake. There was a tile blowout about 15 feet to the east of the intake that was fairly dry. Mr. Berg removed some soil and did not detect any silage odors from the soil. Mr. Berg and Mr. Swanson observed a tile line flowing into the

basin. Mr. Branstad did not have any information on the tile drainage of the property other than for a perforated tile line that drains the office and flowed through the area prior to the silage basin before it was constructed. Mr. Branstad explained that the tile was cut during construction to drain into the basin and the other tile was left in the south berm but was cut about 100 feet out from the berm just beyond the tile intake.

5. Scott Wilson and Jeremy Klatt, DNR Field Office 2 environmental specialists, arrived on site to assist with the investigation. They brought a county tile map that showed a county tile to the east of the site that discharged in the same location as the contaminated tile outfall that Mr. Berg observed. Mr. Swanson and Mr. Berg instructed Mr. Branstad to trench around the basin to search for and cut any tile and to remove the silage liquid from the collection pit.

6. Mr. Branstad began to trench the area with a backhoe to find the tile. Mr. Branstad cut the plastic perforated tile about 30 feet from the berm and silage leachate runoff water began to pour into the trench at full capacity. The field office staff collected laboratory samples of the liquid (Site 17) as well as the runoff flow entering the leachate basin (Site 18). A pH test indicated the sample from the leachate in the basin was 4.0 s.u. Mr. Branstad dug another trench beyond where the tile intake was prior to cutting the tile for the basin construction. In the second trench, two clay tiles were observed below the perforated tile and in a third trench there was another clay tile.

7. Mr. Wilson and Mr. Swanson left the site to collect laboratory samples from the Winnebago River. Mr. Klatt and Mr. Berg walked the 300th Avenue road ditches from the operation to the west and did not find any tile intakes. They returned to the tile discharge north of 310th Street, and Mr. Klatt confirmed the strong silage odor.

8. Mr. Branstad had 6,000 gallons of leachate removed from the facility and taken to another site located at 1998 Drum Avenue, Forest City.

9. As Mr. Berg and Mr. Klatt returned to the field office, they conducted field tests at the 12th Street bridge crossing on the Winnebago River (Site 19). They did not observe any fish, dead or alive. The field tests were conducted at approximately 5:40 pm.

August 30, 2008:

10. On August 30, 2008, at approximately 8:30 am, Mr. Berg traveled up the Winnebago River from Fertile to the Forest City Waste Water Treatment Plant. Mr. Berg checked the dissolved oxygen at four locations (Fertile Dam, Kuhn Wildlife Area, Winnebago Canoe Access, and Taylor Avenue). All of the results were about 5 mg/L. Mr. Berg then stopped at the tile discharge and collected a laboratory sample and conducted field tests at approximately 10:25 am. The discharge water was much less turbid than it had been the day before and there was only a faint odor of silage. Mr. Berg returned to the site south of Highway 69 (Site 15) and conducted field tests at approximately 10:40 am.

11. Mr. Berg proceeded to Mr. Branstad's cattle operation. The leachate was being pumped out of the pit and taken to the Drum Avenue facility. The tile line in the south berm was no longer submerged under the silage runoff and was now visible. The high water line was approximately 15 inches from the base of the 4 inch tile. Mr. Branstad agreed with the DNR that the silage runoff entered a tile line and that if the tile discharge smelled of silage it must have been from his operation. He stated that he was the only one in the area putting up silage. He informed Mr. Berg that he would dig a trench around the basin. Mr. Berg told Mr. Branstad that before he could use the basin again he must have an engineer evaluate the basin. Mr. Solgaard was on site to trench around the basin. Mr. Berg observed Mr. Solgaard remove the tile line out of the south berm. Mr. Berg walked the 300th Avenue north road ditch and found an offset tile intake that was plugged with soil and crop residue located southeast of the facility. Mr. Berg did not detect a silage odor at the intake. Prior to leaving the area, Mr. Berg returned to the tile discharge. It had the same appearance as in the morning, but there was no longer a silage odor.

August 31, 2008:

12. On August 31, 2008, Mr. Branstad called Mr. Berg and requested that he meet with him to discuss the fish findings. Mr. Berg met Mr. Branstad at Torkelson's Pits Conservation Area. Mr. Berg told Mr. Branstad that he had observed dead fish at each bridge crossing from Fertile to south of Forest City. Mr. Berg provided Mr. Branstad with a publication from NRCS concerning environmental problems with silage effluent. They also discussed the oxygen demand associated with corn silage and its environmental impacts to surface waters.

September 2, 2008:

13. On September 2, 2008, Mr. Berg returned to the tile discharge outlet. Mr. Berg took water quality field tests and no longer detected any odors.

14. Mr. Berg then proceeded to the facility. Mr. Branstad claimed that the tile line that drains from the office does not include office wastewater. He claimed there was a septic tank and a separate leach field for the office; however Mr. Berg did not document this. Mr. Berg then spoke with Steve Anderson, Hancock County Sanitarian. It was determined that there was no NPDES Permit #4 on file with the county for the on-site wastewater treatment at Mr. Branstad's operation and there was a possibility the facility would need the permit. Mr. Branstad later contacted Mr. Berg and informed Mr. Berg that he had hired an engineer to evaluate and improve the basin.

September 11, 2008:

15. On September 11, 2008, Mr. Berg traveled up the Winnebago River conducting field tests. The tests were conducted at the Fertile Dam, Taylor Avenue,

Reed Avenue, Winnebago River canoe access, 310th Avenue, and the tile discharge to the Silver Creek tributary.

16. While Mr. Berg was at the Branstad facility he measured the area of the silage basin. The area of the basin was 3,618 ft^2. Mr. Berg also noted Dry Distiller's Grain (DDG) stockpiled with the sweet corn silage. Mr. Berg reminded a Branstad employee that the DDG has a high level of oxygen demand and to ensure that there was not runoff from the DDG piles.

17. On October 2, 2008, Mr. Branstad was issued a Notice of Violation letter for a discharge of a pollutant that resulted in a fish kill. The violations included: prohibited discharge and water quality violations. The letter required Mr. Branstad to submit a copy of the engineer report by January 1, 2009, contact the county sanitarian and apply for a NPDES Permit #4 by January 1, 2009, and apply for a NPDES operation permit and submit a Nutrient Management Plan by January 1, 2009, if the facility exceeds the 1,000 animal units. The letter also informed Mr. Branstad that the matter was being referred for further enforcement.

Fish Kill Summary

18. Mr. Grummer led the fish kill assessment and his assessment determined that the release of sweet corn silage runoff from Mr. Branstad's operation caused the 16.1 mile fish kill on the Winnebago River. The low dissolved oxygen levels from the Fertile Dam to the discharge pipe verified that the silage runoff was the cause of the low oxygen conditions that resulted in the fish kill. The enumeration and values of fish were derived from procedures outlined in American Fisheries Society, Special Publication 30 and 567 IAC 113. The assessment calculated the number of fish killed was 31,244, with a monetary value of $63,020.23.

b. Law

1. Iowa Code section 455B.186 and 567 IAC 62.1(1) state that a pollutant shall not be disposed of by dumping, depositing, or discharging such pollutant into any water of the state except that this section shall not be construed to prohibit the discharge of adequately treated sewage, industrial waste, or other waste pursuant to a permit issued by the Director. During the investigation at Mr. Branstad's facility in August 2008, DNR Field Office 2 found evidence of a pollutant discharge from Mr. Branstad's facility to the Winnebago River. On August 29, 2008 and August 30, 2008, DNR Field 2 documented discharges from the sweet corn silage runoff at Mr. Branstad's facility had entered the Winnebago River through a tile discharge . The discharge was documented by field tests and laboratory analysis of samples.

2. 567 IAC 61.3(2) provides general water quality criteria and prohibits discharges that will produce objectionable color, odor or other aesthetically objectionable conditions; settle to form sludge deposits; interfere with livestock watering; or are toxic to animal or plant life. During the investigation at Mr. Branstad's facility in August

2008, DNR Field Office 2 found evidence of general water quality violations including silage odor, turbid waters, and a large fish kill. Between August 29, 2008 and September 11, 2008, DNR Field Office 2 documented several instances of water quality violations.

3. 567 IAC 61.3(3)"b"(1) states that dissolved oxygen shall not be less than 5.0 milligrams per liter in stream classified as B(WW-1). Winnebago River is classified as a B(WW-1) water. Numerous field tests conducted by DNR Field Office 2 between August 29, 2008 and September 11, 2008 indicated dissolved oxygen levels less than 5.0 milligrams per liter.

4. 567 IAC 69.1(4) states that no onsite wastewater treatment and disposal system shall be installed until an application of a permit has been submitted and a permit has been issued by the administrative authority. On September 11, 2008, DNR Field Office 2 determined that the Branstad facility had not contacted the county sanitarian and did not have the required NPDES Permit #4. This violation cannot be fully confirmed until the county sanitarian is provided the proper documentation and is able to evaluate the system.

5. Iowa Code section 455B.191(4) authorizes the Attorney General to institute legal proceedings necessary to secure enforcement of the water quality provisions of the law. 455B.191(1) authorizes civil penalties of up to $5,000 per day of violation of statutory provisions or DNR rules. Iowa Code section 455B.191(2) authorizes more serious criminal sanctions for negligent or knowing violations.

V. Past History

Mr. Branstad has been cited for open burning violations in the past. On September 19, 1989, Mr. Branstad was issued Administrative Order No. 89-AQ-28 for open burning and improper solid waste disposal at his facility located near Leland, Iowa. On August 27, 2003, Mr. Branstad was issued a Notice of Violation letter for open burning at the Leland facility. On August 3, 2004, Mr. Branstad was issued a Notice of Violation letter for open burning at the Leland facility. On March 16, 2007, DNR, Monroe Branstad, and Edward Branstad entered into Administrative Consent Order No. 2007-AQ-07 that resolved the open burning and improper solid waste violations that occurred in 2004. As part of the consent order, the Branstads agreed to pay a penalty of $4,500.00 by April 16, 2007. To date the penalty has not been paid.

VI. Witnesses

The following Department personnel will be potential witnesses: Carl Berg, Clay Swanson, Scott Wilson, Jeremy Klatt, and Scott Grummer. Mr. Berg and Mr. Grummer will be available during the December 9, 2008 EPC meeting to answer additional questions.

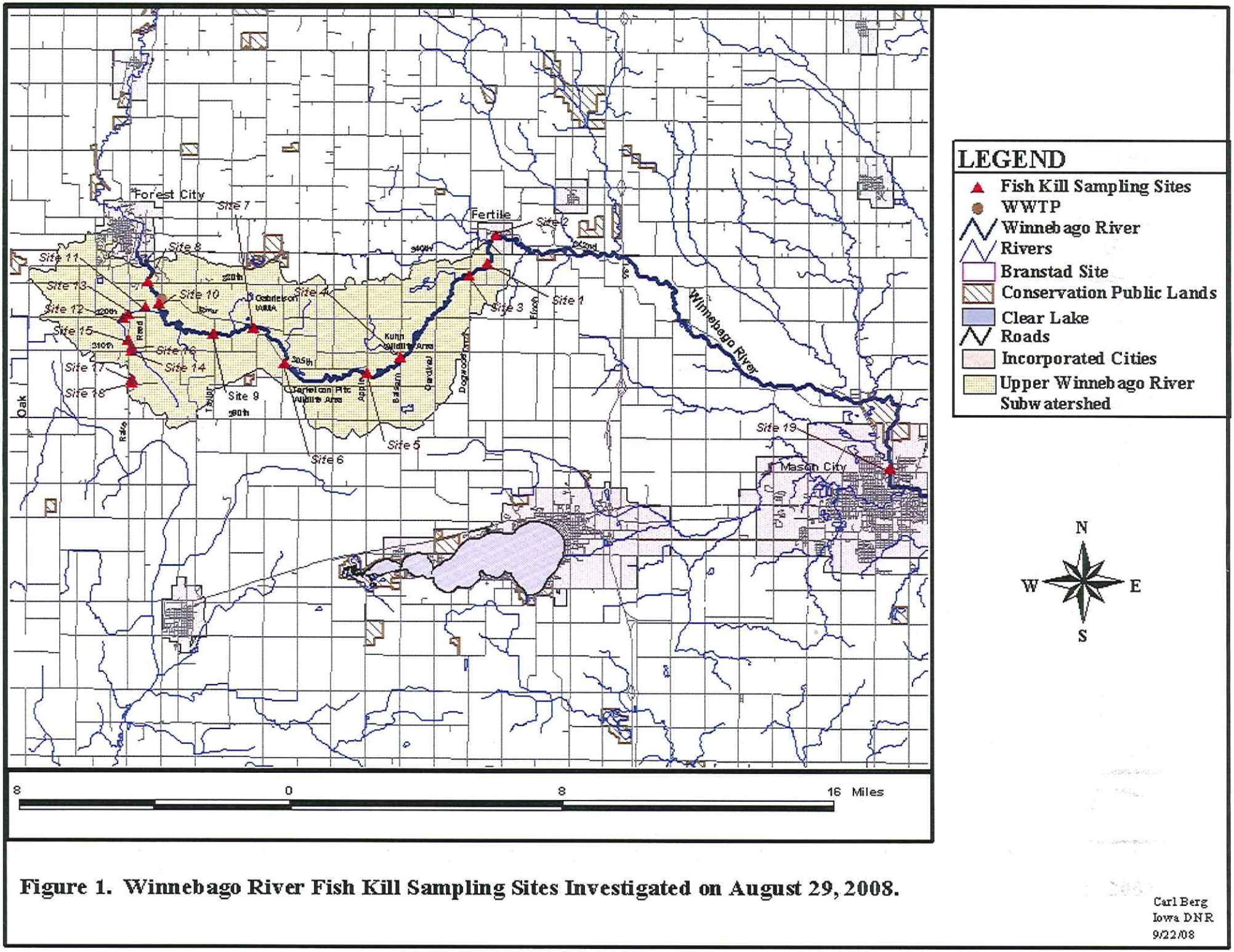

Figure 1. Winnebago River Fish Kill Sampling Sites Investigated on August 29, 2008.

Carl Berg
Iowa DNR
9/22/08

Table I. Summary of Sample Site Locations and Samples Collected during Winnebago River Fish Kill Investigation on August 29, 2008.

Sample Site Locations	Section, Township, County	Stream	Field Test(s)	Lab Samples Collected	Lab Samples Collected By	Dead Fish Observed
1) Near 4582 335th St	NE 1/4, Section 3, Grant Twsp, Cerro Gordo	Winnebago River	Yes	No	N/A	Yes
2) Upstream Fertile Dam; South Side River-at City Park	E 1/2, Section 34, Fertile Twsp, Worth	Winnebago River	Yes	Yes	Wilson	Yes
3) Dogwood Ave Bridge	W 1/2, Section 3, Grant Twsp, Cerro Gordo	Winnebago River	Yes	No	N/A	Yes
4) Kuhn State WMA, Balsam Ave	NE 1/4, Section 19, Grant Twsp, Cerro Gordo	Winnebago River	Yes	Yes[1]	Wilson	Yes
5) Apple Ave Bridge Crossing	SE 1/4, Section 24 Ellington Twsp, Hancock	Winnebago River	Yes	No	N/A	Yes
6) Torkelson Pits CCA, 305th Ave Bridge	NE 1/4, Section 22, Ellington Twsp, Hancock	Winnebago River	Yes	No	N/A	Yes
7) Gabrielson State WMA, Valley Road Bridge	NE 1/4, Section 16, Ellington Twsp, Hancock	Winnebago River	Yes	No	N/A	Yes
8) Winnebago River Canoe Access, Highway B14	SE 1/4, Section 1, Madison Twsp, Hancock	Winnebago River	Yes	Yes[2]	Swanson	No
9) Taylor Ave Bridge	NE 1/4, Section 17, Ellington Twsp, Hancock	Winnebago River	Yes	Yes	Swanson	Yes
10) Forest City WWTP, ~500ft downstream of NPDES discharge	SW 1/4, Section 7, Ellington Twsp, Hancock	Winnebago River	Yes	Yes	Swanson	No
11) Reed Ave Bridge	S 1/2, Section 12, Madison Twsp, Hancock	Silver Creek	Yes	No	N/A	No
12) 320th St Bridge	SE 1/4, Section 11, Madison Twsp, Hancock	Tributary to Silver Creek	Yes	No	N/A	No
13) North Highway 69 Bridge	SE 1/4, Section 12, Madison Twsp, Hancock	Silver Creek	Yes	No	N/A	No
14) 310th Ave Bridge	SW 1/4, Section 13, Madison Twsp, Hancock	Tributary to Silver Creek	Yes	Yes	Swanson	No
15) South Highway 69 Bridge	SW 1/4, Section 13, Madison Twsp, Hancock	Tributary to Silver Creek	Yes	Yes	Berg	No
16) Tile Discharge ~150 feet upstream from 310th Ave	SW 1/4, Section 13, Madison Twsp, Hancock	Tributary to Silver Creek	Yes	Yes	Berg	No
17) Branstad Silage Runoff Basin	SW 1/4, Section 24, Madison Twsp, Hancock	N/A	Yes	Yes	Berg	N/A
18) Tile Draining From Basin (~30 Feet South of Basin)	SW 1/4, Section 24, Madison Twsp, Hancock	N/A	Yes	Yes	Berg	N/A
19) 12th St Bridge, Mason City	Mason City, Cerro Gordo	Winnebago River	Yes	No	N/A	No

[1] - *Lab Sample collected from Highway S14 (Balsam Ave) Bridge*

[2] -*Lab Sample collected from Highway B14 (River Road) Bridge*

Table II. Summary of Field and Lab Water Quality Data Collected during Winnebago River Fish Kill Investigation on August 29, 2008.

SAMPLE SITE LOCATIONS	PARAMETERS (mg/l)						
	Field Tests			Lab Results			
	DO	pH	NH3-N	BOD	COD	TSS	NH3-N
Near 4582 335th St	1.5	7.9	<1.0	N/A			
Upstream Fertile Dam; South Side River-at City Park	2.5	7.9	<1.0	9.0	47.0	36.0	<0.05
Dogwood Ave Bridge	1.8	7.9	<1.0	N/A			
Kuhn State WMA, Balsam Ave	1.0			7.0	45.0	26.0	0.06
Apple Ave Bridge Crossing	1.0	N/A					
Torkelson Pits CCA, 305th Ave Bridge	1.0	N/A					
Gabrielson State WMA, Valley Road Bridge	1.0	8.0	0.2	N/A			
Winnebago River Canoe Access, Highway B14	8.0	8.2	0.2	6.0	40.0	57.0	<0.05
Taylor Ave Bridge	1.0	N/A	N/A	10.0	51.0	69.0	0.11
Forest City WWTP, ~500ft downstream of NPDES discharge	8.0	8.2	0.9	4.0	38.0	57.0	0.14
Reed Ave Bridge	3.5	7.4	0.3	N/A			
320th St Bridge	0.0	7.2	1.5	880.0	860.0	31.0	1.80
North Highway 69 Bridge	1.5	7.1	2.6	<2	36.0	6.0	0.19
310th Ave Bridge	8.0	7.8	0.6	2.0	38.0	13.0	0.15
South Highway 69 Bridge	1.3	6.8	>3.0	880.0	860.0	31.0	1.80
Day after discharge	15.0	7.5	0.2	N/A	40.0	N/A	0.23
Tile Discharge ~150 feet upstream from 310th Ave	0.0	N/A	>3.0	7,100.0	7,800.0	140.0	9.10
Branstad Silage Runoff Basin	N/A			72,000.0	100,000.0	N/A	N/A
Tile Draining From Basin, ~30 Feet South of Basin	N/A			54,000.0	68,000.0	1,500.0	85.00
12th St Bridge, Mason City	14.0	N/A	2.7	5.0	N/A	N/A	N/A

Table III. Summary of Field and Lab Water Quality Data (mg/l) Collected during Winnebago River Fish Kill Investigation on August 30, 2008 and September 2 and 11, 2008.

SAMPLE SITE LOCATIONS	Date	Field Tests			Lab Results			
		DO	pH	NH3-N	BOD	COD	TSS	NH3-N
Upstream Fertile Dam;South Side River-at City Park	8/30/2008	5.0	N/A					
	9/11/2008	15.0	8.3	0.8				
Kuhn State WMA, Balsam Ave	8/30/2008	5.0	N/A					
Winnebago River Canoe Access, Highway B14	8/30/2008	7.5	N/A					
	9/11/2008	11.0	8.4	0.2				
Taylor Ave Bridge	8/30/2008	7.5	N/A					
	9/11/2008	8.5	8.3	0.2				
Reed Ave Bridge	9/11/2008	14.0	7.8	0.4				
310th Ave Bridge	9/11/2008	9.0	8.2	0.2				
South Highway 69 Bridge	8/30/2008	>15	7.9	1.5				
Tile Discharge ~150 feet upstream from 310th Ave	8/30/2008	7.0	7.5	0.2	N/A	40.0	N/A	0.23
	9/2/2008	7	7.5	1				
	9/11/2008	>15	7.8	1.5				